Appendix A7. Project design standards for wildlife habitat structures.

1. Wildlife nesting structures should be:
   - built for specific native avian and mammalian species.
   - designed for easy cleaning and maintenance.
   - properly suspended or supported.
   - protected from wind driven rain.
   - properly ventilated.
   - designed to eliminate predation or placed in protected areas.
   - built without perches to prevent house sparrow and starling occupancy.
   - constructed with pine, plywood, cedar, redwood, or cypress (cedar preferred).
2. Do not use pressure treated or creosote-based wood products for any part of a nesting or feeding structure.
3. Clean parasites, wasps, hornets, and mice from nesting structures on a periodic basis.
4. Open nesting structures during non breeding periods to reduce mice occupancy.
5. Locate nesting structures to meet natural territorial spacing requirements for the specific species that will be using the structures.
6. Bat roosting and nesting structures should not be placed over open waterways or busy roadways.
7. Limit general public access to nesting structures by locating them in secure or inaccessible areas to reduce vandalism and disturbance.
8. Leave bark and branches on large woody materials used for instream structures to help reptiles and amphibians obtain better leg holds when climbing on these materials.
9. Retain or provided down and decaying coarse woody debris to provide for terrestrial wildlife habitats and nutrient recycling.
10. Retain or develop snags (*i.e.*, standing dead trees), as needed, on project sites for cavity dependent wildlife species. Guidance for snag creation is as follows:
    - Snags should be at least six feet high and six inches in diameter at breast height for small and large cavity nesting birds, and up to twenty inches in diameter for large cavity nesting mammals.
    - Snags should be created by girdling selected trees at their base with a chainsaw.
    - Create snags in areas where they would occur naturally due to habitat conditions, windfall, fires, or other natural causes.
    - Use a combination of conifer and hardwood trees for snags.
11. Construct brush piles along habitat edges to provide cover and shelter for a variety of wildlife species. Guidance for brush pile construction is as follows:
    - Use large logs and rocks for the base layer to provide tunnels and openings at ground level.
    - Stack lighter woody materials (*e.g.*, limbs and slash) in a criss-cross pattern on top of the base layer.
    - Brush piles should be four to eight feet high and fifteen to twenty feet wide to provide adequate wildlife cover and shelter.
    - Construct several brush piles within the same area.
    - Do not place brush piles under tree canopies due to potential wildfire hazards.
    - Brush piles should last eight to ten years, depending on the size and type of materials used to build them.